



Integrated Column Generation and Lagrangian Relaxation Approach for the Multi-Skill Project Scheduling Problem

Submitted by David Rivreau on Thu, 02/05/2015 - 09:19

Titre	Integrated Column Generation and Lagrangian Relaxation Approach for the Multi-Skill Project Scheduling Problem
Type de publication	Chapitre
Type	Ouvrage scientifique
Année	2015
Langue	Anglais
Pagination	565-586
Volume	1
Numéro du chapitre	26
Titre de l'ouvrage	Handbook on Project Management and Scheduling
Auteur	Montoya, Carlos [1], Bellenguez-Morineau, Odile [2], Pinson, Eric [3], Rivreau, David [4]
Auteur secondaire	Schwindt, Christoph [5], Zimmermann, Jürgen [6]
Editeur	Springer International Publishing
ISBN	978-3-319-05442-1
Mots-clés	Column Generation [7], Lagrangian relaxation [8], Multi-skilled personnel [9], Project scheduling [10], Project staffing [11], Resource constraints [12]
Résumé en anglais	<p>This chapter introduces a procedure to solve the Multi-Skill Project Scheduling Problem. The problem combines both the classical Resource-Constrained Project Scheduling Problem and the multi-purpose machine model. The aim is to find a schedule that minimizes the completion time (makespan) of a project composed of a set of activities. Precedence relations and resources constraints are considered. In this problem, resources are staff members that master several skills. Thus, a given number of workers must be assigned to perform each skill required by an activity. Practical applications include the construction of buildings, as well as production and software development planning. We present an approach that integrates the utilization of Lagrangian relaxation and column generation for obtaining strong makespan lower bounds. Finally, we present the corresponding obtained results.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua7519 [13]
DOI	10.1007/978-3-319-05443-8_26 [14]
Collection	International Handbooks on Information Systems

Liens

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Publié sur *Okina* (<http://okina.univ-angers.fr>)